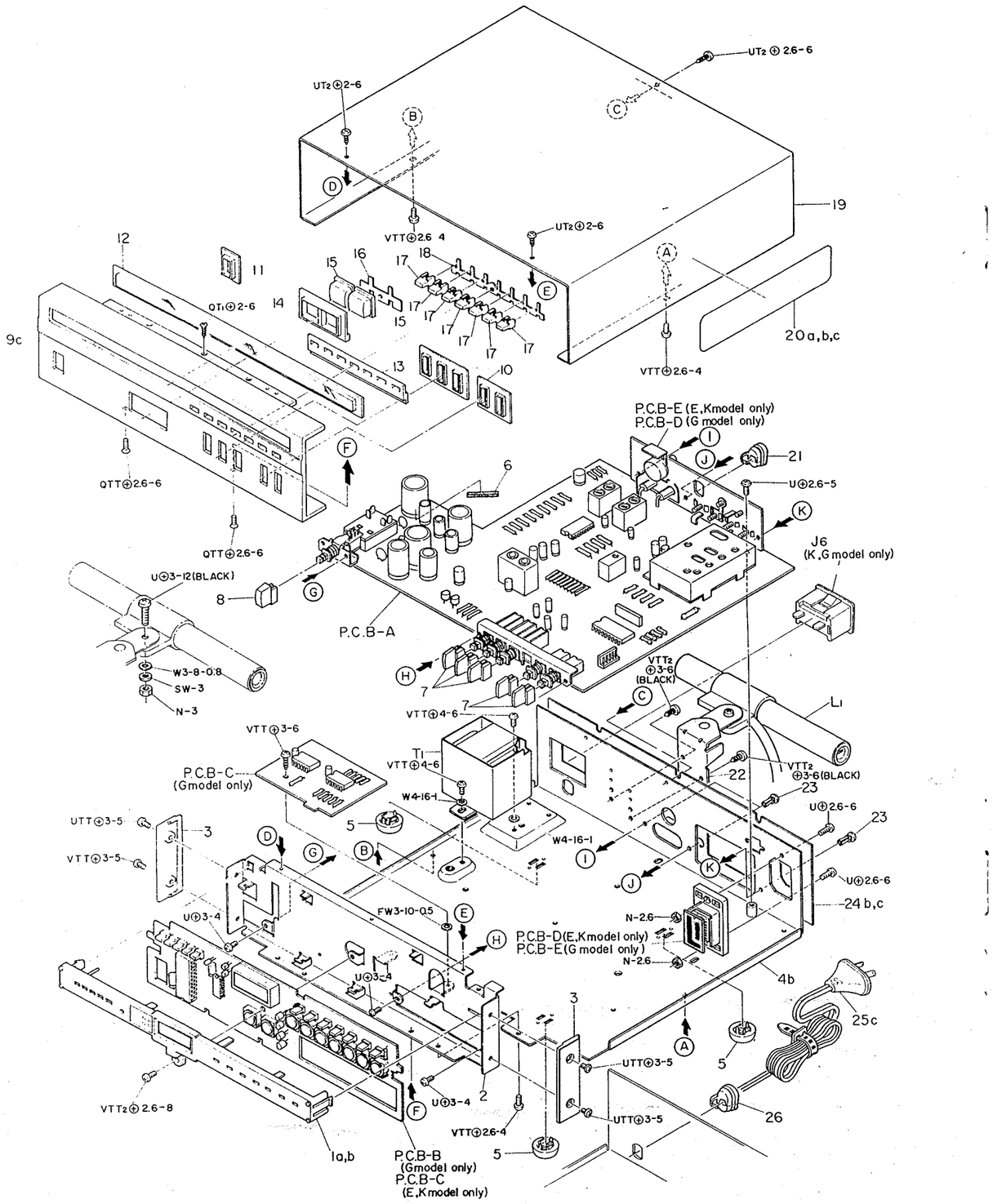
Service Manual

AIWA

ST – R50 E,K,G,

FM/AM STEREO TUNER

EXPLODED VIEW

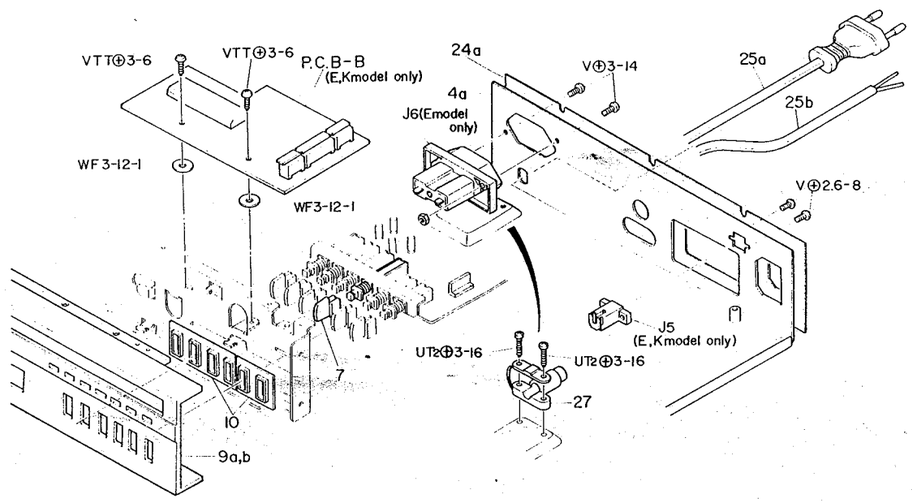


PARTS LIST

MECHANICAL PARTS

■ * mark in this part list shows exclusive part (which is used) for only Model No. ST-R50.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1a	82-747-029-01		Display (E,K model only)	*	1
1-1b	82-747-004-01		Display (G model only)	*	1
1-2	82-747-201-01		Chassis, Front	*	1
1-3	82-745-003-01		Panel L, Side		2
1-4a	82-747-211-01		Amp. chassis ass'y (E model only)	*	1
1-4b	82-747-213-01		Amp. chassis ass'y (K,G model only)	*	1
1-5	82-745-019-01		Foot		4
1-6	82-748-208-01		Cushion	SA-C50	1
1-7	82-745-009-01		Push-button B		E,K: 6 G:5
1-8	82-745-010-01		Push-button C		1
1-9a	82-747-028-01		Panel, Front (E model only)	*	1
1-9b	82-747-030-01		Panel, Front (K model only)	*	1
1-9c	82-747-027-01		Panel, Front (G model only)	*	1
1-10	82-745-011-01		Guide, Push-button B		1
1-11	82-745-012-01		Guide, Push-button C		1
1-12	82-747-003-01		Window		1
1-13	82-747-008-01		Guide D	*	1
1-14	82-747-009-01		Guide E	*	1
1-15	82-747-006-01		Push-key E	*	2
1-16	82-747-206-01		Plate spring B	*	1
1-17	82-747-005-01		Push-key D	*	1
1-18	82-747-205-01		Plate spring A	*	7
1-19	82-747-002-01		Cabinet, Steel	*	1
1-20a	82-747-011-01		Name plate, Spec. (E model only)	*	1
1-20b	82-747-012-01		Name plate, Spec. (K model only)	*	1
1-20c	82-747-013-01		Name plate, Spec. (G model only)	*	1
1-21	87-085-180-01		Cord bushing		1
1-22	82-473-010-01		Antenna holder ass'y		1
1-23	87-085-102-01		Nylon rivet, 3.5—5.5		3
1-24a	82-747-018-01		Jack plate (E model only)	*	1
1-24b	82-747-019-01		Jack plate (K model only)	*	1
1-24c	82-747-020-01		Jack plate (G model only)	*	1
1-25a	87-034-877-01		AC power cord (E model only)		1
1-25b	87-034-872-01		AC power cord (K model only)		1
1-25c	87-034-878-01		AC power cord (G model only)		1
1-26	87-085-165-01		Cord bushing (G model only)		1
1-27	87-085-166-01		Holder, AC power cord (E,K model only)		1



ELECTRICAL MAIN PARTS LIST = ST-R50E,K

Symbol No.	Part No.	Description
≪MAIN CIRCUIT BOARD SECTION≫		
⚠ PCB-A	82-747-602-01	Main circuit board
CP1	82-747-612-01	FM front end U
IC1	82-494-791-01	IC, HA11211
IC2	87-027-576-01	IC, HA12016
IC3	87-027-546-01	IC, TD6102(P)
IC4	87-027-547-01	IC, TC9125(P)
IC12	87-027-327-01	IC, μPC574(J)
Q10	89-319-233-01	Transistor, 2SC1923(O)
Q11,12,17,18, 20,21,23,24, 25,26,27,28, 29,30,31,33, 34,35,37,38, 43	89-318-154-01	Transistor, 2SC1815(Y)
Q13	89-110-155-01	Transistor, 2SA1015(GR)
Q14,15	89-320-011-01	Transistor, 2SC2001(K)
Q16,22	89-110-154-01	Transistor, 2SA1015(Y)
Q19	89-318-155-01	Transistor, 2SC1815(GR)
Q32	89-303-804-01	Transistor, 2SC380(Y)
Q36	89-500-304-01	FET, 2SK30A(Y)
Q39,42	89-405-712-01	Transistor, 2SD571(L)
Q40,41	89-408-805-01	Transistor, 2SD880(GR)
D10,11,12,19, 20,21,22,23, 24,25,26,27, 28,29,30,31, 32,33,34,35, 36,100,103	87-027-097-01	Diode, 1S1555
D13,14,15,16, 17,18,102, 107	88-052-188-11	Diode, 1S188(FM)
D37,38,39	87-027-365-01	Diode, S5277B
D40	87-027-163-01	Diode, 1B4B1
D42	87-027-368-01	Zener diode, HZ-12B1L
D43	87-027-703-01	Zener diode, HZ-7A1L
D44	87-027-702-01	Zener diode, HZ-6C2L
D101	87-027-628-01	Diode, SV03
D104,105,106	87-027-592-01	Diode, KV-1225Y
L2	82-742-641-01	Coil (Quad)
L4	82-742-642-01	MW OSC coil
L5	82-742-643-11	LW OSC coil
L10,20,21	87-005-121-01	Coil, 2.2μH
L11,12	87-005-130-01	Coil, 10μH
L13	87-005-126-01	Coil, 1mH
TC10	87-011-108-01	Trimmer, 8P
TC11	87-011-109-01	Trimmer, 15P
LPF1,2	82-497-635-01	Low-pass filter
X1	82-742-676-01	Crystal, 9MHz
CF1	87-008-221-01	Ceramic filter, HS2GYHZ (E model)
CF2,3	87-008-206-01	Ceramic filter, FMMA8H (E model)
CF1,2,3	87-008-206-01	Ceramic filter FMMA8H (K model)
CF4	87-008-219-01	Ceramic filter, SFZ468G3
CFT1	87-008-218-01	AM ceramic filter transformer
IFT1	87-008-187-01	AM IFT, 468KHz
J3	82-747-639-01	Antenna terminal palte (E model)
J3	82-847-640-01	Antenna terminal plate (K model)
S2,3,4,5, 6,7	82-747-642-11	Push-switch (FM, MW, LW, MONO/ST, HI-BLEND, AUTO/MANUAL)

Symbol No.	Part No.	Description
⚠ S1	87-031-547-01	Push-switch (POWER)
SFR1	87-021-566-01	Semi-fixed resistor, 5kΩ-B
SFR2	87-021-617-01	Semi-fixed resistor, 220kΩ-B
		< Resistor >
⚠ R129,135	87-029-007-01	22Ω ¼w Fuse resistor
R132	87-025-218-01	33Ω 5w Nonflammable resistor
		< Capacitors >
C70	87-014-037-01	150pF PP
C65	87-014-049-01	470pF PP
C82	87-014-057-01	1000pF PP
C78,79	87-014-058-01	1100pF PP
≪CPU CIRCUIT BOARD SECTION≫		
PCB-B	82-747-636-01	CPU circuit board
IC8	87-027-639-01	IC, TC9129
IC9,10,11	87-027-427-01	IC, MSM-4016
Q101,102,103, 104,105	89-318-154-01	Transistor, 2SC1815(Y)
D51~70,91,92	87-027-097-01	Diode, 1S1555
L101	82-747-661-01	FM OSC coil, 1.2mH
L102	87-005-126-01	Coil, 1mH
PIN-1	87-032-904-01	Pin, 4P
PIN-2	87-032-905-01	Pin, 5P
CON-3,4	87-032-965-01	Connector, 5P
CON-5	87-032-972-01	Connector, 12P
		< Capacitor >
C160	87-015-329-01	0.33μF 50V Electrolytic LL
≪DISPLAY CIRCUIT BOARD SECTION≫		
PCB-C	82-747-604-01	Display circuit board
IC5	87-027-426-01	IC, IR-2403
IC6	87-027-590-01	IC, TC-4511BP
IC7	87-027-261-01	IC, LB-1405
Q106,107,108, 109	89-206-412-01	Transistor, 2SB641(R)
Q110,111,112, 113	89-318-154-01	Transistor, 2SC1815(Y)
D71,72,73, 74,75,76	87-027-097-01	Diode, 1S1555
D77	87-027-671-01	LED, LN417YP (A/B)
D78	87-027-543-01	LED, LN317GP (MEMORY)
D79	87-027-377-01	LED, GL-2PR1 (TUNING AUTO)
D80,81,82, 83,84	87-027-542-01	LED, LN217RP (MEMORY IND)
D85	87-027-218-01	LED, SR-105D (STEREO)
D86~90	87-027-544-01	LED, LN05202P (SIGNAL LEVEL)
D93	87-027-670-01	LED, LN543GK(E) (FREQUENCY DISPLAY)
L103	87-005-126-01	Coil, 1mH
S8,9,10,11,12, 13,14,15,16	87-031-498-01	Push-switch (TUNING DOWN, UP, 1~6, MEMORY)
≪JACK CIRCUIT BOARD SECTION≫		
PCB-D	82-747-637-01	Jack circuit board
J4	82-747-615-11	Jack, 2.5φ (REMOTE)
D94	88-052-188-11	Diode, 1S188(FM)

ACCESSORIES/PACKAGE ST-R50E,K,G

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1a	82-747-858-01		Printed indiv., Packing (E,K model only)	*	1
1b	82-747-855-01		Printed indiv., Packing (G model only)	*	1
2	82-747-853-21		Cushion L, Printed indiv.	*	1
3	82-747-854-21		Cushion R, Printed indiv.	*	1
4	87-051-135-11		Poly-vinyl sack (for AC power cord)		1
5	87-056-604-01		Poly-vinyl sack (for case)		1
6a	82-747-906-01		Instructions booklet (E model only)	*	1
6b	82-747-907-01		Instructions bookelt (K model only)	*	1
6c	82-747-908-01		Instructions bookelt (G model only)	*	1
7	87-056-008-11		Label, AC power cord (K model only)		1
8	87-051-171-11		Poly-vinyl sack (for instruction)		1
9	87-056-009-41		Distributors list		1
10	87-056-032-01		Guarantee card (G model only)		1
11	86-944-016-01		Connection cord CW-129DSK		1
12	87-043-051-01		FM feeder antenna		1

ACCESSORIES/PACKAGE SA-C50E,K,G

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	82-748-855-01		Printed indiv., Packing	*	1
2	82-748-856-01		Cushion L, Printed indiv.	*	1
3	82-748-857-01		Cushion R, Printed indiv.	*	1
4a	87-051-135-11		Poly-vinyl sack (for AC power cord) (E, K model only)		1
4b	87-051-137-11		Poly-vinyl sack (for AC power cord) (G model only)		1
5	87-056-604-01		Poly-vinyl sack (for case)		1
6a	82-748-906-01		Instructions bookelt (E model only)	*	1
6b	82-748-907-01		Instructions bookelt (K model only)	*	1
6c	82-748-908-01		Instructions bookelt (G model only)	*	1
7	87-056-008-11		Label, AC power cord		1
8	87-051-171-11		Poly-vinyl sack (for instruction)		1
9	87-056-009-41		Distributors list		1
10	87-056-032-01		Guarantee card (G model only)		1

ACCESSORIES/PACKAGE SA-P50E,K,G

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	82-749-855-11		Printed indiv., Packing	*	1
2	82-749-852-01		Cushion L, Printed indiv.	*	1
3	82-749-853-01		Cushion R, Printed indiv.	*	1
4a	87-051-135-11		Poly-vinyl sack (for AC power cord) (E, K model only)		1
4b	87-051-137-11		Poly-vinyl sack (for AC power cord) (G model only)		1
5	87-056-604-01		Poly-vinyl sack (for case)		1
6a	82-749-906-01		Instructions bookelt (E model only)	*	1
6b	82-749-907-01		Instructions bookelt (K model only)	*	1
6c	82-749-908-01		Instructions bookelt (G model only)	*	1
7	87-051-171-01		Poly-vinyl sack (for instruction)		1
8	87-056-008-11		Label, AC power cord (K model only)		1
9	87-056-009-41		Distributors list		1
10	86-944-016-01		Connection cord CW-129DSK		1

AIWA

WIRING ST-R50E,K

10. LW Tracking Adjustment
L3 ..... 145 kHz
TC11 ..... 325 kHz

9. MW Tracking Adjustment
L1 ..... 603 kHz
TC10 ..... 1,404 kHz

LW/MW BAR ANTENNA
L1 (MW ANT.)
L3 (LW ANT.)

5. FM Tracking Adjustment
FM antenna trimmer ..... 108 MHz

6. MW Freq. Range Adjustment
L4 ..... 1,611 kHz
Method:
Connect a DC voltmeter across test point TP5 and ground. Adjust so that the level is 26.5V.

7. LW Freq. Range Adjustment
L6 ..... 150 kHz
Method:
Connect a DC voltmeter across test point TP5 and ground. Adjust so that the level is 2.0V.

11. FM Separation Adjustment
Settings:
- Input signal: 98 MHz, 75 kHz div., 1 kHz MOD. 60 dB
- Adjustment location: SFR2

Method:
Adjust so that the separation at the output is at its maximum.

2. FM IF Adjustment
IFT, L2 ..... 10.7 MHz

1. FM IF Offset Adjustment
The ceramic filters used with the ST-R50 are classified according to the color dots. If the PLL is not offset properly with respect to the center frequency, the auto-stop and muting will malfunction. When replacing the ceramic filters during repair, for instance, it is necessary to use all three units with the same color, and also to re-adjust the offset.
Method:

Ceramic filter color	D33	D34	D56
White (10.75 MHz)	X	—	X
Orange (10.725 MHz)	—	X	X
Red (10.7 MHz)	X	X	X
Blue (10.675 MHz)	—	—	—
Black (10.65 MHz)	X	—	—

— Diode connection X . . . Diode cut

J3 75Ω ANT.
300Ω
75Ω
FM
GND
AM
OUTPUT
J2(R)
J1(L)
ANTENNA
TP2 AM IF Input
TP1 FM IF Input
747-602-01
CF1 (FM FRONTEND)
FM ANT TRIMMER
IFT
CFT
LPF 1
LPF 2
SFR1
SFR2
TP6 V.C.O Freq. Test Point

4. FM Distortion Adjustment
Settings:
- Band selector: FM
- Mode selector: MONO
- Input signal: 98 MHz, 72 dB
- Test point: OUPUT pin jack
- Adjustment location: IFT, L2 B

Method:
Adjust so that the distortion is reduce to minimum value.

9. VCO Freq. Adjustment
SFR1 ..... 76 kHz

TP5 MW, LW Freq. Range Test Point

S2 FM
S3 MW
S4 LW
S5 MONO ST/MUTING ON
S6 HI-BLEND
S7 TUNING AUTO MANUAL
TP4 FM DC Zero Test Point
TP3 FM DC Zero Test Point
S1 POWER

8. AM IF Adjustment
IFT1, CFT1 ..... 468 kHz

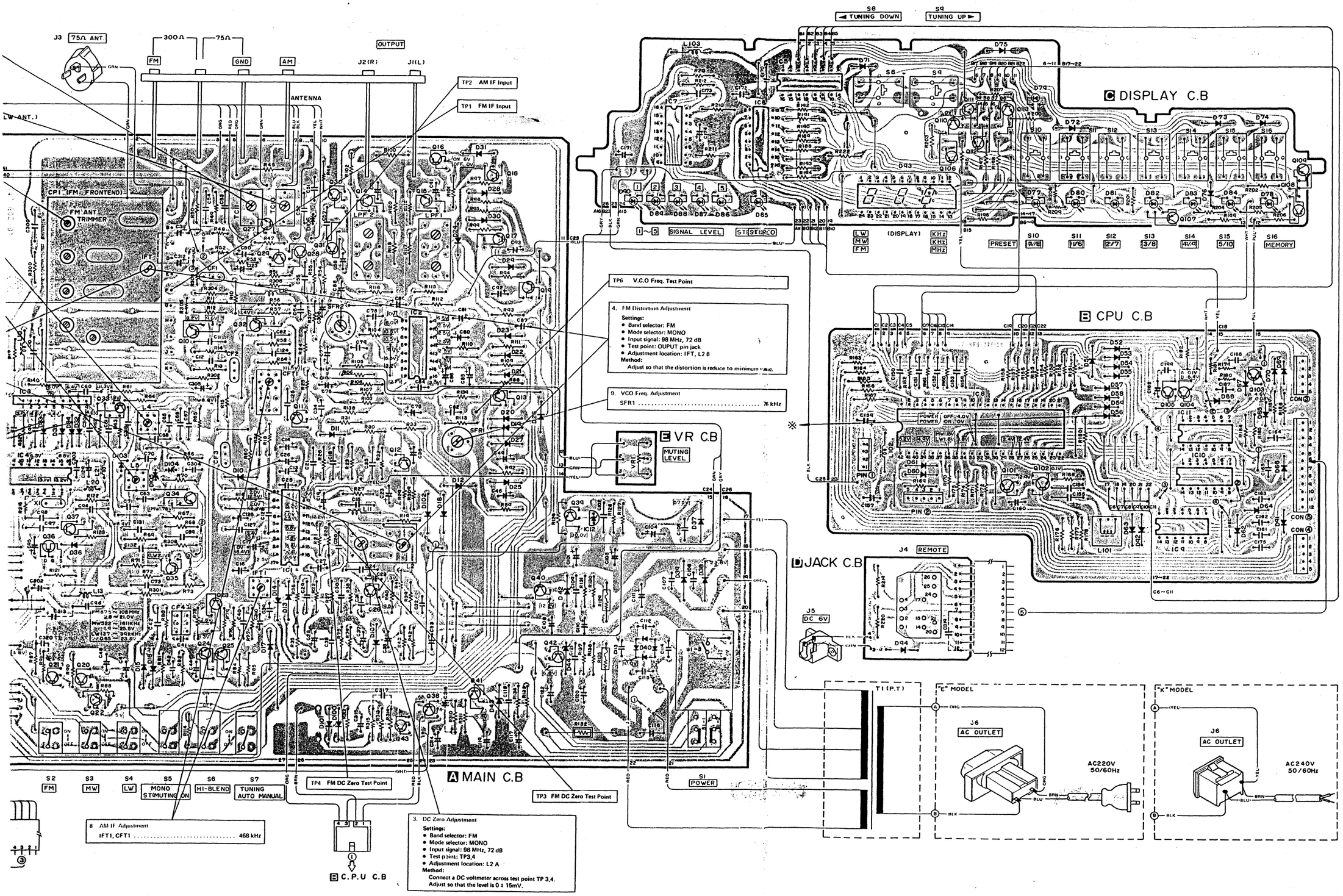
3. DC Zero Adjustment
Settings:
- Band selector: FM
- Mode selector: MONO
- Input signal: 98 MHz, 72 dB
- Test point: TP3,4
- Adjustment location: L2 A

Method:
Connect a DC voltmeter across test point TP 3,4. Adjust so that the level is 0 ± 15mV.

A MAIN C.B
B C.P.U C.B
B C.P.U C.B
B VR C.B
MUTING LEVEL
C DISPLAY C.B
S8 TUNING DOWN
S9 TUNING UP
I~5 SIGNAL LEVEL
ST/STEREO
LW MW FM (DISPLAY) KHz KHz MHz
PRESET
S10 A/B
S11 V6
S12 2/7
B CPU C.B
D JACK C.B
J4 REMOTE
J5 DC 6V
T1 (P.T)
"E" MODEL
J6 AC OUTLET
AC220V 50/60Hz

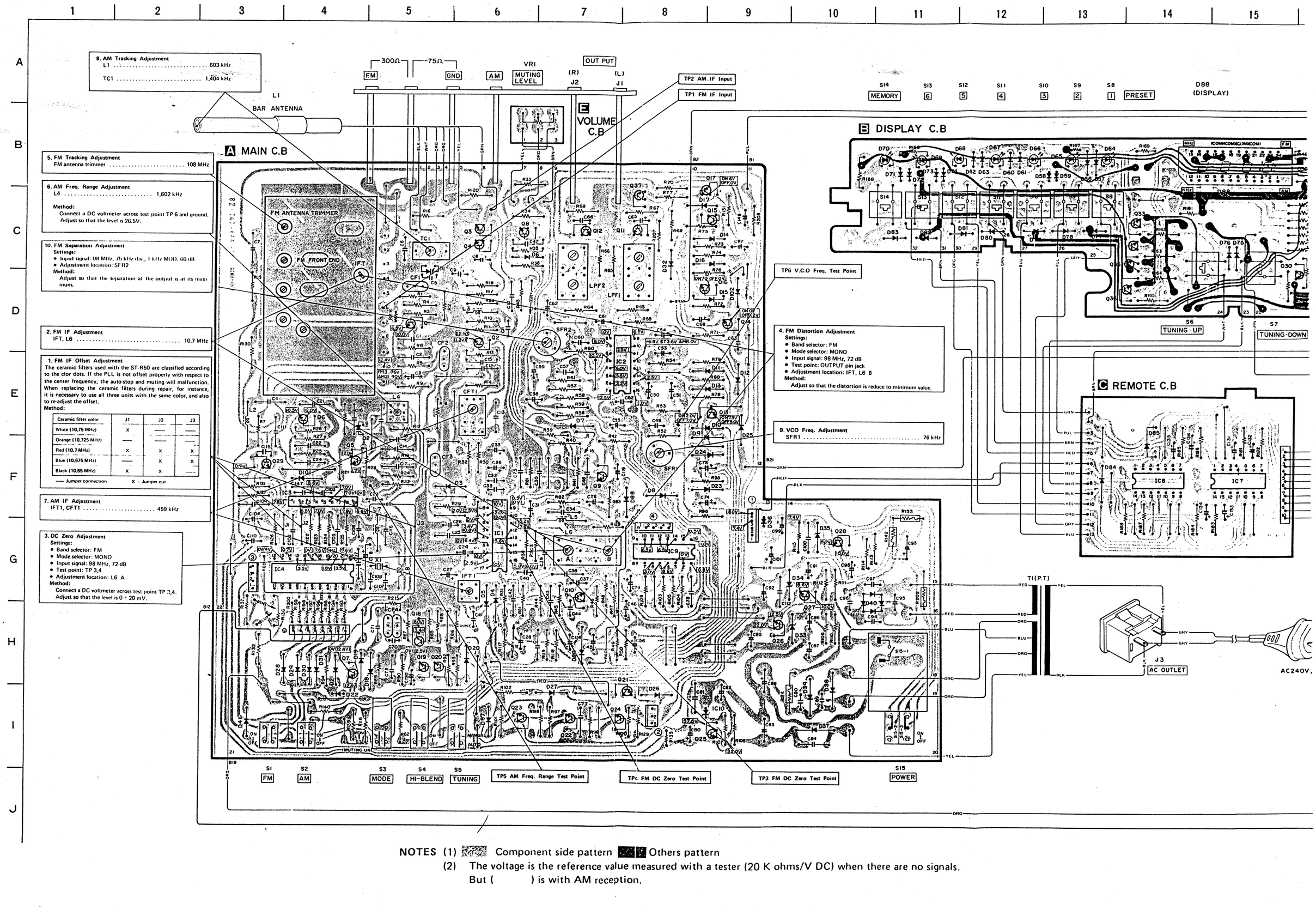
NOTES The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
But ( ) is with AM reception.

R50



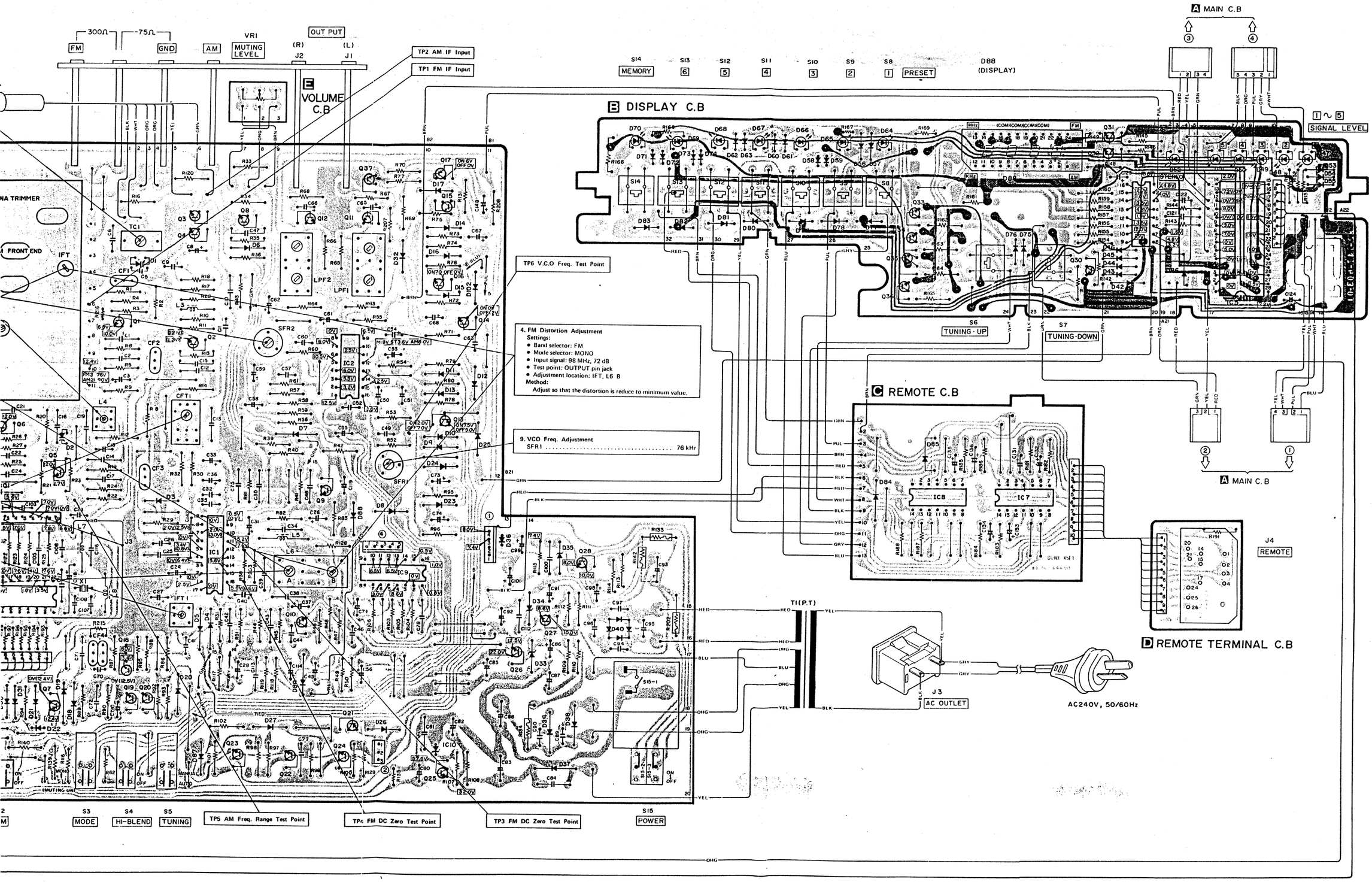
NOTES The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
But ( ) is with AM reception.

WIRING ST-R50G


8. AM Tracking Adjustment
L1 ..... 603 kHz
TC1 ..... 1,404 kHz
5. FM Tracking Adjustment
FM antenna trimmer ..... 108 MHz
6. AM Freq. Range Adjustment
L4 ..... 1,602 kHz
Method:
Connect a DC voltmeter across test point TP 6 and ground. Adjust so that the level is 26.5V.
10. FM Separation Adjustment
Settings:
• Input signal: 98 MHz, 75 kHz dev., 1 kHz MOD, 60 dB
• Adjustment location: SFR2
Method:
Adjust so that the separation at the output is at its maximum.
2. FM IF Adjustment
IFT, L6 ..... 10.7 MHz
1. FM IF Offset Adjustment
The ceramic filters used with the ST-R50 are classified according to the clor dots. If the PLL is not offset properly with respect to the center frequency, the auto-stop and muting will malfunction. When replacing the ceramic filters during repair, for instance, it is necessary to use all three units with the same color, and also to re-adjust the offset.
Method:
Ceramic filter color | J1 | J2 | J3
White (10.75 MHz) | X | — | —
Orange (10.725 MHz) | — | — | —
Red (10.7 MHz) | X | X | X
Blue (10.675 MHz) | — | X | X
Black (10.65 MHz) | X | X | —
— Jumper connection X — Jumper cut
7. AM IF Adjustment
IFT1, CFT1 ..... 459 kHz
3. DC Zero Adjustment
Settings:
• Band selector: FM
• Mode selector: MONO
• Input signal: 98 MHz, 72 dB
• Test point: TP 3,4
• Adjustment location: L6 A
Method:
Connect a DC voltmeter across test point TP 3,4. Adjust so that the level is 0 ± 20 mV.
L1
BAR ANTENNA
300Ω
75Ω
FM
GND
AM
VR1
MUTING LEVEL
OUT PUT
(R) J2
(L) J1
E VOLUME C.B
TP2 AM IF Input
TP1 FM IF Input
A MAIN C.B
FM ANTENNA TRIMMER
FM FRONT END
IFT
TP6 V.C.O Freq. Test Point
4. FM Distortion Adjustment
Settings:
• Band selector: FM
• Mode selector: MONO
• Input signal: 98 MHz, 72 dB
• Test point: OUTPUT pin jack
• Adjustment location: IFT, L6 B
Method:
Adjust so that the distortion is reduce to minimum value.
9. VCO Freq. Adjustment
SFR1 ..... 76 kHz
B DISPLAY C.B
SI4 MEMORY
SI3 6
SI2 5
SI1 4
SI0 3
S9 2
S8 1
PRESET
D88 (DISPLAY)
S6 TUNING · UP
S7 TUNING · DOWN
C REMOTE C.B
TI(P.T)
J3 AC OUTLET
AC240V
S1 FM
S2 AM
S3 MODE
S4 HI-BLEND
S5 TUNING
TP5 AM Freq. Range Test Point
TP4 FM DC Zero Test Point
TP3 FM DC Zero Test Point
S15 POWER

NOTES (1) Component side pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
But ( ) is with AM reception.

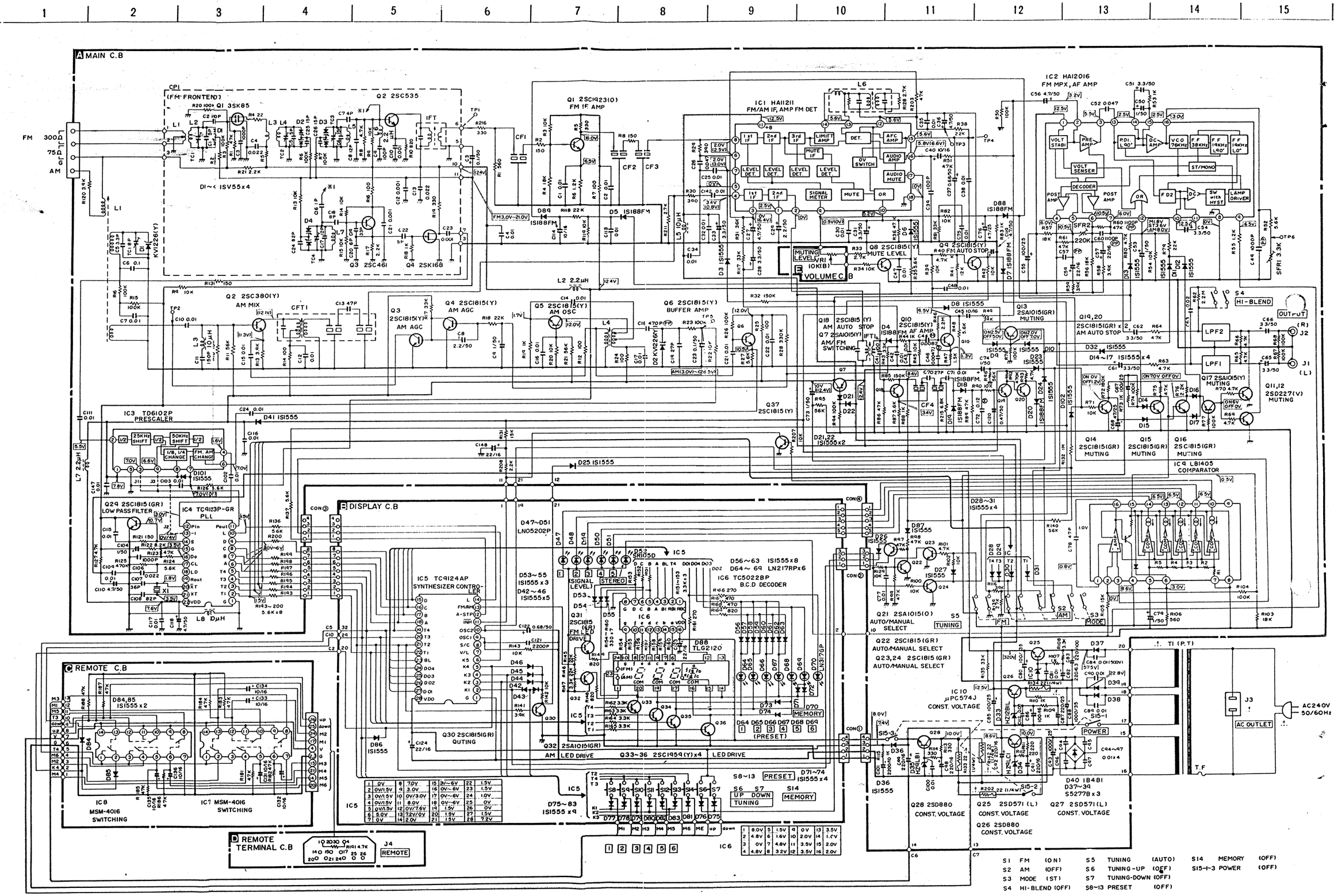


NOTES (1) Component side pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
But ( ) is with AM reception.

AIWA

SCHEMATIC DIAGRAM ST-R50G



Symbol No.	Part No.	Description
≪VR CIRCUIT BOARD SECTION≫		
PCB-E	82-747-638-01	VR circuit board
VR1	82-747-614-01	Volume, 10kΩ-B (MUTING LEVEL)
≪MISCELLANEOUS≫		
⚠ T1	82-747-608-01	Power transformer (E model)
⚠ T1	82-747-609-01	Power transformer (K model)
L1,2	82-747-641-01	MW/LW bar antenna coil
J5	87-049-024-01	DC jack (DC-6V)
⚠ J6	87-032-997-01	AC outlet (E model)
⚠ J6	87-032-996-01	AC outlet (K model)
⚠	87-034-877-01	AC power cord (E model)
⚠	87-034-872-01	AC power cord (K model)
CON-1	82-747-653-01	4P amp. ass'y
CON-2	82-747-652-01	5P amp. ass'y

⚠ This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

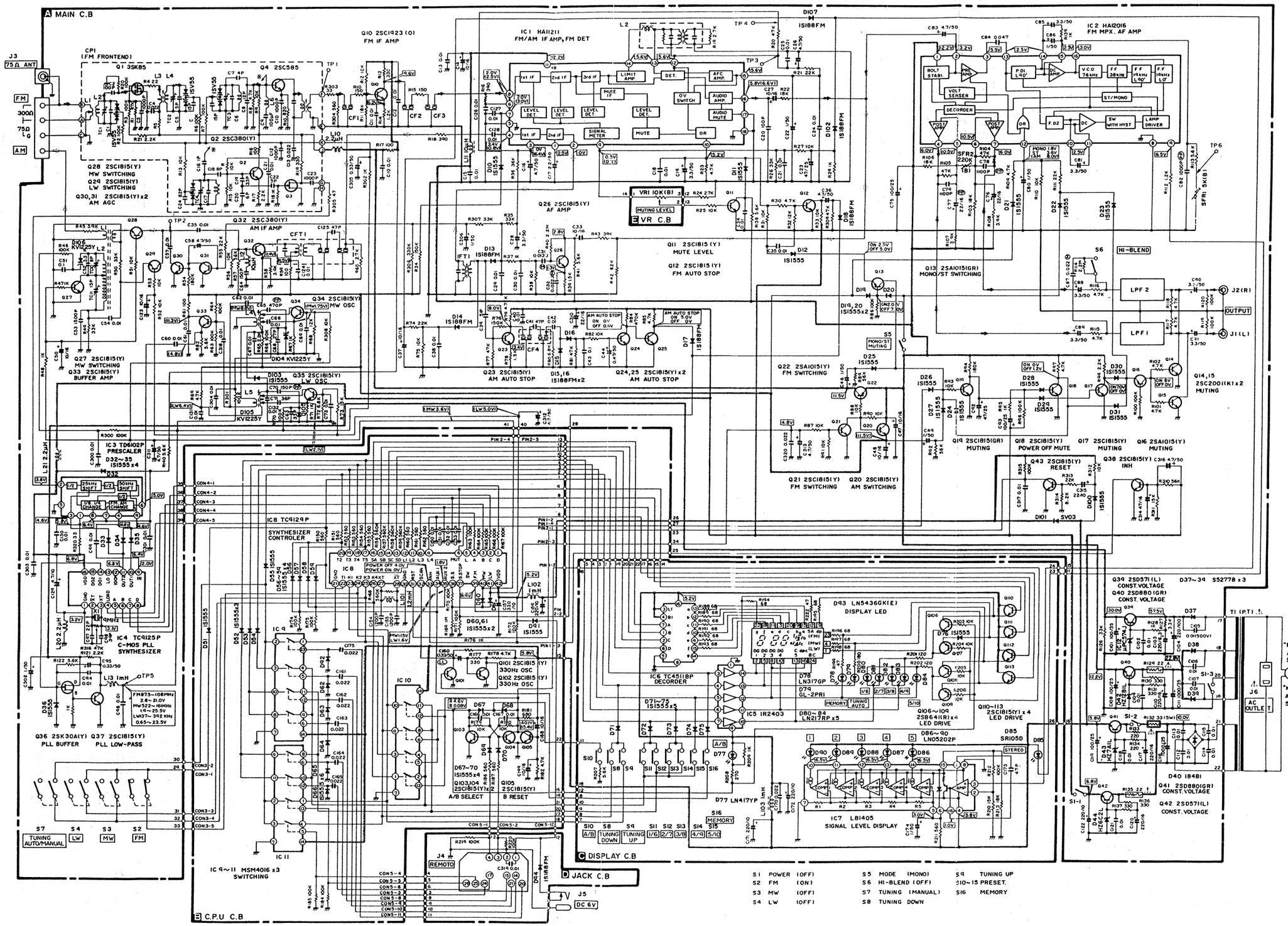
ELECTRICAL MAIN PARTS LIST=ST-R50G

Symbol No.	Part No.	Description
≪MAIN CIRCUIT BOARD SECTION≫		
PCB-A	82-747-601-21	Main circuit board
CP1	82-747-612-01	FM front end
IC1	82-494-791-01	IC, HA-11211
IC2	87-027-576-01	IC, HA-12016
IC3	87-027-546-01	IC, TD6102P
IC4	87-027-684-01	IC, TC9123P-GR
IC9	87-027-261-01	IC, LB-1405
IC10	87-027-327-01	IC, μPC574J
Q1	89-319-233-01	Transistor, 2SC1923(O)
Q2	89-303-804-01	Transistor, 2SC380(Y)
Q3,4,5,6,8, 9,10,18,37	89-318-154-01	Transistor, 2SC1815(Y)
Q7,17	89-110-154-01	Transistor, 2SA1015(Y)
Q11,12	89-402-275-01	Transistor, 2SD227(V)
Q13	89-110-155-01	Transistor, 2SA1015(GR)
Q14,15,16, 19,20,22, 23,24,29	89-318-155-01	Transistor, 2SC1815(GR)
Q21	89-110-153-01	Transistor, 2SA1015(O)
Q25,27	89-405-712-01	Transistor, 2SD571(L)
Q26,28	89-408-804-51	Transistor, 2SD880(Y,GR)
D1,2	87-027-535-01	Diode, KV1226Y
D3,6,8,9,10, 11,12,13,14, 15,16,17,21, 22,23,24, 25,26,27, 28,29,30, 31,32,36, 41,87,101, 102	87-027-097-01	Diode, 1S1555
D4,5,7,18,19, 20,88,89	88-052-188-11	Diode, 1S188(FM)
D33	87-027-368-01	Zener diode, HZ-12B1L
D34	87-027-584-01	Zener diode, HZ9LC1
D35	87-027-583-01	Zener diode, HZ-9LB1
D37,38,39	87-027-365-01	Diode, S5277B
D40	87-027-163-01	Encapsulated diode, 1B4B1
L2,7	87-005-121-01	Choke coil, 2.2μH
L3,5,8	87-005-130-01	Micro inductor coil, 10μH
L4	82-742-642-01	MW OSC coil
L6	82-742-641-01	Quad coil
X1	82-747-619-01	Crystal, 6.4 MHz
LPF1,2	82-497-635-01	Low-pass filter
CF1,2,3	87-008-206-01	FM ceramic filter
CF4	87-008-205-01	FM ceramic filter
CFT1	87-008-204-01	AM ceramic filter transformer
IFT1	87-008-160-01	AM IFT (DET)
TC1	87-011-108-01	Trimmer, 8pF
J1,2	82-747-618-01	Antenna terminal w/2p pin jack (FM/AM ANT, OUTPUT)
S1~5	82-747-625-11	Push-switch (FM, AM, MODE, HI-BLEND, TUNING)
⚠ S15	87-031-547-01	Push-switch (POWER)
SFR1	87-021-611-01	Semi-fixed resistor, 3.3kΩ-B
SFR-2	87-021-617-01	Semi-fixed resistor, 220kΩ-B
PIN-2	87-032-903-01	Pin, 3P
PIN-1,3	87-032-904-01	Pin, 4P
PIN-4	87-032-905-01	Pin, 5P
CON	87-032-968-01	Connector, 8P
	-	**< Resistor >**
⚠ R133,134 142,202	87-029-007-01	22Ω ¼W Fuse resistor
		< Capacitors >
C18	87-014-049-01	470pF PP
C49	87-014-057-01	1000pF PP
C57,60	87-014-058-01	1100pF PP
≪DISPLAY CIRCUIT BOARD SECTION≫		
PCB-B	82-747-603-11	Display circuit board
IC5	87-027-577-01	IC, TC9124AP
IC6	87-027-422-01	IC, TC5022
Q30,31	89-318-155-01	Transistor, 2SC1815(GR)
Q32	89-110-155-01	Transistor, 2SA1015(GR)
Q33,34,35, 36	89-319-594-01	Transistor, 2SC1959(Y)
D42,43,44, 45,46,53, 54,55,56, 57,58,59, 60,61,62, 63,71,72, 73,74,75, 76,77,78, 79,80,81, 82,83,86	87-027-097-01	Diode, 1S1555
D47~51	87-027-544-01	LED, LN05202P (SIGNAL LEVEL)
D52	87-027-218-01	LED, SR-105D (STEREO)
D64,65,66, 67,68,69	87-027-542-01	LED, LN217RP (PRESET1~6)
D70	87-027-543-01	LED, LN317GP (MEMORY)
D88	87-027-580-01	LED, TLG2120 (FREQUENCY INDICATOR)
S6,7,8,9,10, 11,12,13,14	87-031-498-01	Push-switch (TUNING·UP, DOWN,PRESET·1~6, MEMORY)
≪REMOTE CIRCUIT BOARD SECTION≫		
PCB-C	82-747-622-11	Remote circuit board
IC7,8	87-027-427-01	IC, MSM4016
D84,85	87-027-097-01	Diode, 1S1555
CON	87-032-970-01	Connector, 10P
≪REMOTE TERMINAL CIRCUIT BOARD SECTION≫		
PCB-D	82-747-624-21	Remote terminal circuit board
J4	82-747-615-11	Connector ass'y (REMOTE)
≪VOLUME CIRCUIT BOARD SECTION≫		
PCB-E	82-747-623-11	Volume circuit board
VR1	82-747-614-01	Volume, 10kΩ-B (MUTING LEVEL)
≪MISCELLANEOUS≫		
⚠ T1	82-747-651-01	Power transformer
⚠ L1	82-747-629-11	AM bar antenna coil ass'y
⚠ J3	87-032-996-01	AC outlet
⚠	87-034-878-01	AC power cord
⚠	87-085-165-01	Cord bushing
	82-747-627-01	Flat cable, 8P
	82-747-630-01	Flat cable, 10P
CON-2	82-747-631-01	Connector ass'y, 3P
CON-3	82-747-617-11	Connector ass'y, 4P
CON-1	82-747-626-01	Connector ass'y, 4P
CON-4	82-747-616-01	Connector ass'y, 5P

⚠ This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

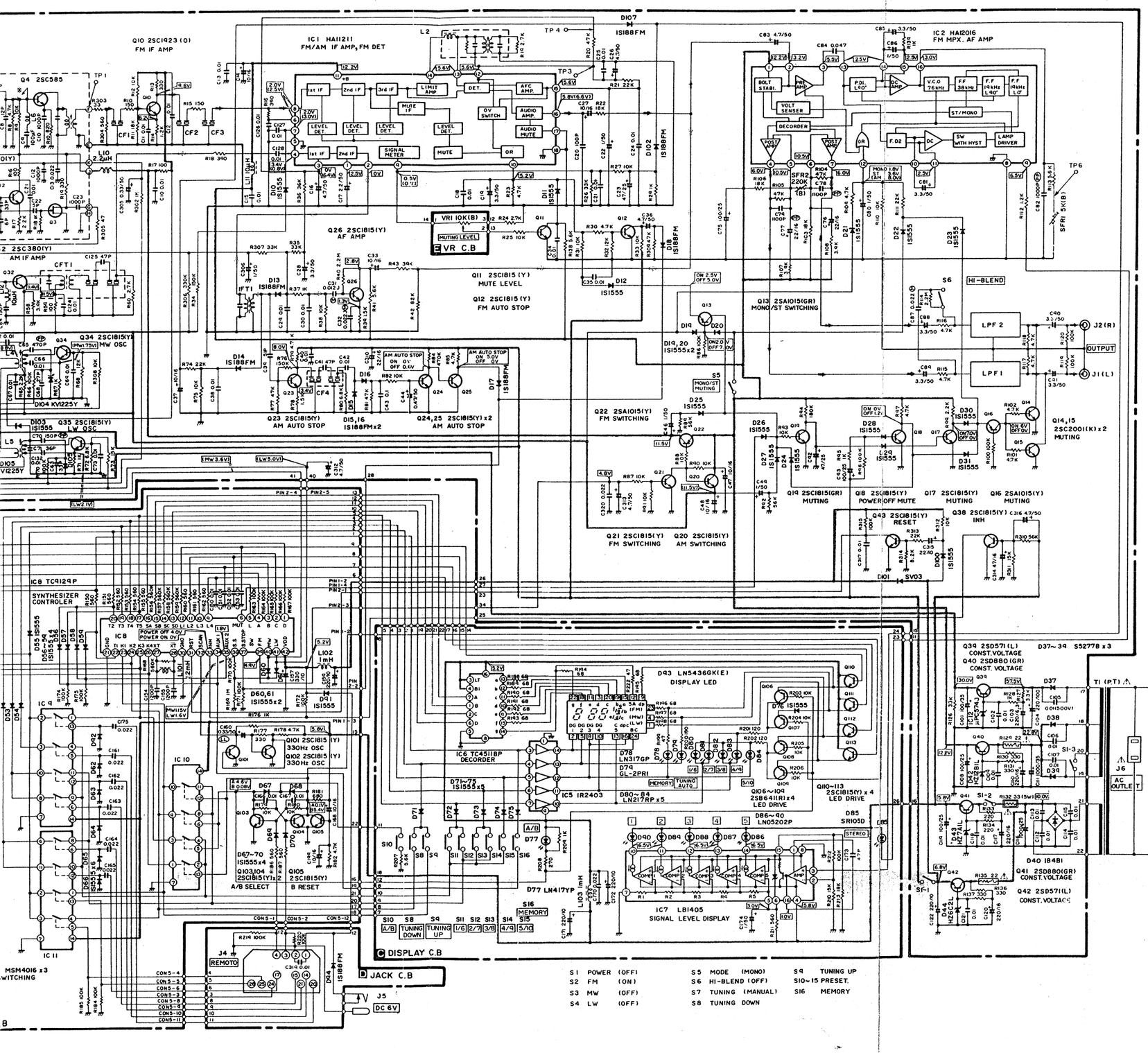
AIWA

SCHEMATIC DIAGRAM ST-R50E,K



R50

5 6 7 8 9 10 11 12 13 14 15 16



NOTES:

1) ▬ B (+) power supply
2) ➡ Signal path
   ⇢ Rec path, AM signal path.
3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
   But ( ) is with AM reception or recording.
   An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
4) Resistors with no designation have a rated power of ¼W and a tolerance of ±5%.
5) Capacitors with no designation have a dielectric strength of less than 50WV.
6) The only capacitor tolerances indicated are ±5% (J) and ±10% (K).
7) Ceramic capacitor symbols:
   ⊣|⊢ For temperature compensation (SL)
   ⊣|⊢ High dielectric constant system (YY)
   ⊣|⊢ High dielectric constant system (YW, YP, YZ)
   ⊣|⊢ Semiconductor ceramic
8) Explanation of symbols
   (M) Mylar capacitor
   (A) Aluminum solid capacitor
   (PP) Polypropylene film capacitor
   (BP) Bi-polarized capacitor
   ⏦ Fuse resistor
   Safety component symbol

⚠ This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

- This schematic diagram is subject to change without notice in the interests of improved performance.